```
=> d his

     (FILE 'HOME' ENTERED AT 08:20:14 ON 30 JAN 2001)
     FILE 'CA' ENTERED AT 08:20:22 ON 30 JAN 2001
L1 356629 S BLOOD CELL OR WBC OR RBC OR ERYTHROCYTE OR LEUKOCYTE OR RETICULOCYTE
          OR THROMBOCYTE OR LYMPHOCYTE OR GRANULOCYTE OR NEUTROPHIL OR MONOCYTE
          OR EOSINOPHIL OR BASOPHIL
L2  29209 S L1(4A)(POPULATION OR DIFFERENTIA? OR COUNT?)OR CELL COUNT?
L3    918 S L2 AND(DILUENT OR LYSE OR LYSING OR LYTIC OR LYSIS OR(CELL OR
          CELLULAR)(2A)(STABIL? OR SPHER? OR MORPHOL?))
L4    388 S L3 AND(ANIMAL OR VETERINARY OR DOG OR CAT OR HORSE OR COW OR PIG OR
          MOUSE OR HAMSTER OR CHICKEN OR RABBIT OR BIRD OR RODENT OR CANINE OR
          FELINE OR BOVINE OR EQUINE)
L5    198 S L3 AND(APPARATUS OR DEVICE OR CYTOMET? OR SYSTEM)
L6      8 S L3 AND(MONKEY OR SWINE OR MAMMAL? OR APE OR MAMAL?)NOT L4
L7      8 S L3 AND(CHANG? OR ADJUST? OR VARY? OR MODIF?)(4A)(AGENT OR REAGENT OR
          COMPOSIT?)
L8    312 S (L4-7 NOT PY>1992)OR(L4-7 AND PATENT/DT)
     FILE 'BIOSIS' ENTERED AT 08:51:51 ON 30 JAN 2001
L9    822 S L4
L10   577 S L5-7
L11   470 S L9-10 NOT PY>1992
L12   304 S L11 NOT(ALLOGEN? OR GELATIN? OR INTERLEUKIN? OR ANTIGEN)
L13   233 S L12 NOT(NERVOUS SYSTEM OR ANTIBODY OR INHAL? OR STAB OR AUTORAD?)
L14    22 S L11 NOT L13 AND(APPARATUS OR DEVICE OR CYTOMET? OR(AGENT OR REAGENT)
          (4A)(CHANG? OR ADJUST OR VARY? OR MODIF?))
L15   207 S L13 NOT(ELECTRON MICROSCOP? OR RADIATION OR FLORA OR PULP OR
          RECOMBINA?)
L16   158 S L15 NOT(IMMUNO? OR CHEMOSEN? OR INFARCT? OR BALDDER OR INFILTRAT? OR
          AIRWAY)
L17     3 S L13 NOT L16 AND(APPARATUS OR DEVICE OR CYTOMET? OR(AGENT OR REAGENT)
          (4A)(CHANG? OR ADJUST OR VARY? OR MODIF?))
L18   101 S L11 AND CELL COUNT?
L19   222 S L14,L16-18
     FILE 'MEDLINE' ENTERED AT 09:18:04 ON 30 JAN 2001
L20  1497 S L4
L21   779 S L5-7
L22  1249 S L20-21 NOT PY>1992
L23   192 S L22 AND(APPARATUS OR DEVICE OR CYTOMET? OR(AGENT OR REAGENT)(4A)
          (CHANG? OR ADJUST OR VARY? OR MODIF?))
L24    19 S L22 AND CELL(W)(COUNTER OR COUNTING)
L25   529 S L22 NOT(ALLOGEN? OR GELATIN OR INTERLEUKIN OR ANTIGEN OR ANTIBODY OR
          NERVOUS SYSTEM OR INHAL? OR STAB OR AUTORAD?)
L26   316 S L25 NOT(IMMUNO? OR CHEMOSEN? OR INFARCT? OR BALDDER OR INFILTRAT? OR
          AIRWAY OR ELECTRON MICROSCOP? OR RADIATION OR FLORA OR PULP OR
          RECOMBINA?)
L27   270 S L26 NOT(GANGLION OR BASEMENT OR CORNEA? OR ULTRASON? OR RETINA? OR
          STOMACH OR MUCUS)
L28   238 S L27 NOT(MAST OR NICOTINE OR CEREBRO? OR MICROVIL? OR DEAF? OR
          ANTISEP? OR LUNG?)
L29   198 S L28 NOT(GAMMA OR CEREBE? OR MAGNETIC RESONAN? OR NODOSUS OR C6 OR
          VERO OR EMBRYO? OR NEURONAL OR CASEIN)
L30   377 S L23-24,L29
     FILE 'CA, MEDLINE, BIOSIS' ENTERED AT 09:47:50 ON 30 JAN 2001
L31   766 DUP REM L8 L30 L19 (145 DUPLICATES REMOVED)
L32   484 S L31 NOT(ALLOGEN? OR GELATIN OR INTERLEUKIN OR ANTIGEN OR ANTIBODY OR
          NERVOUS SYSTEM OR INHAL? OR STAB OR AUTORAD?)
L33   410 S L32 NOT(IMMUNO? OR CHEMOSEN? OR INFARCT? OR BLADDER OR INFILTRAT? OR
```

AIRWAY OR ELECTRON MICROSCOP? OR RADIATION OR FLORA OR PULP OR RECOMBINA?)
L34 403 S L33 NOT(GANGLION OR BASEMENT OR CORNEA? OR ULTRASON? OR RETINA? OR STOMACH OR MUCUS)
L35 388 S L34 NOT(GAMMA OR CEREBE? OR MAGNETIC RESONAN? OR NODOSUS OR C6 OR VERO OR EMBRYO? OR NEURONAL OR CASEIN)
FILE 'CA' ENTERED AT 09:53:45 ON 30 JAN 2001
L36 185 S L8 NOT(ALLOGEN? OR GELATIN OR INTERLEUKIN OR ANTIGEN OR ANTIBODY OR NERVOUS SYSTEM OR INHAL? OR STAB OR AUTORAD?)
L37 146 S L36 NOT(IMMUNO? OR CHEMOSEN? OR INFARCT? OR BLADDER OR INFILTRAT? OR AIRWAY OR ELECTRON MICROSCOP? OR RADIATION OR FLORA OR PULP OR RECOMBINA?)
L38 145 S L37 NOT(GANGLION OR BASEMENT OR CORNEA? OR ULTRASON? OR RETINA? OR STOMACH OR MUCUS)
L39 138 S L38 NOT(GAMMA OR CEREBE? OR MAGNETIC RESONAN? OR NODOSUS OR C6 OR VERO OR EMBRYO? OR NEURONAL OR CASEIN)
L40 42 S L8 NOT L39 AND(APPARATUS OR DEVICE OR CYTOMET? OR(AGENT OR REAGENT) (4A)(CHANG? OR ADJUST OR VARY? OR MODIF?)OR CELL COUNT?)
FILE 'CA, BIOSIS, MEDLINE' ENTERED AT 10:00:53 ON 30 JAN 2001
L41 430 DUP REM L35 L40 (0 DUPLICATES REMOVED)
L42 498 DUP REM L41 L19 (154 DUPLICATES REMOVED)
L43 68 S L42 NOT L41

=> d bib,ab 1-430 l41

L41 ANSWER 21 OF 430 CA COPYRIGHT 2001 ACS
AN 124:225852 CA
TI Reagent system for improved multiple species blood analysis
IN Carver, Edward L., Jr.
PA USA
SO U.S., 14 pp. Division of U.S. 5,262,329. CODEN: USXXAM
PI US 5486477 A 19960123 US 1993-105027 19930811
PRAI US 1991-714671 19910613
AB The present invention provides a novel lytic reagent compn. highly selective in its interactions with the cell membranes of blood cells and also provides a method of using the reagent compn. in a semi-automated or an automated system to effect a significantly improved white blood cell differential detn. The lytic reagent compn. is characterized by an ability to selectively shrink the white blood cells into the increasing size order of lymphocytes, a mid-region consisting mainly of monocytes, other mononuclear cells, some basophils and eosinophils, and neutrophils and can readily be optimized to effect a significantly improved 3-component sepn. on the histogram of com. available semi-automated and automated blood analyzers when compared to the reagents conventionally employed on such instruments. Also provided is a novel blood diluent that exhibits an improved ability to stabilize blood cells without ''fixing'' the permeability of their membranes, which is crit. in the semi-automated anal. of blood cells. This mechanism for membrane stability is particularly effective for maintaining the morphol. and size distribution of blood cells for multiple species of animals.

L41 ANSWER 32 OF 430 CA COPYRIGHT 2001 ACS
AN 119:135041 CA
TI Diluent and detergent reagent system for whole-blood cell counting
IN Wong, Show Chu
PA Sequoia Turner Corp., USA
SO U.S., 7 pp. Cont. of U.S. Ser. No. 641,975, abandoned. CODEN: USXXAM
PI US 5227304 A 19930713 US 1992-918162 19920721

PRAI US 1991-641975 19910116
AB An improved multi-purpose blood diluent for use with a gentle lysing agent and improved detergent reagent system are disclosed which are esp. suitable for use in routine electronic enumeration and volumetric differentiation of blood cells. The preferred imidazole stabilizer used in the diluent reagent is found to be an excellent cell-stabilizing agent and buffer for maintaining cell morphol. during operation. A synergistic combination of a superior antimicrobial agent, the preferred Triadine-10, used in the diluent and the detergent reagents, not only prevents bacterial or fungal growth, but also helps to stabilize cells and to obtain distinct volumetric differentiation of certain leukocyte populations. The preferred Brij 35 in a balanced salt soln. has proved to be an efficient and cost-effective detergent to ensure accurate results and trouble-free operation of the analyzers.

L41 ANSWER 35 OF 430 MEDLINE
AN 93089608 MEDLINE
TI Reference hematologic values and morphologic features of blood cells in healthy adult llamas.
AU Van Houten D; Weiser M G; Johnson L; Garry F
CS Department of Pathology, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins 80523..
SO AMERICAN JOURNAL OF VETERINARY RESEARCH, (1992 Oct) 53 (10) 1773-5. Journal code: 40C. ISSN: 0002-9645.
LA English biomic
AB Hematologic values and cellular morphologic features were evaluated for 38 healthy adult llamas. Reference ranges were determined for PCV, reticulocyte concentration, leukocyte concentration, and leukocyte differential counts. The approach used in this study was to focus on hematologic values that may be determined by use of techniques readily available to the practicing veterinarian and nonveterinary laboratory. Unique cellular morphologic features commonly observed and interpreted as normal included large granular lymphocytes, hyposegmented eosinophil nuclei, folded erythrocytes, and hemoglobin crystals.

ΩL41 ANSWER 40 OF 430 MEDLINE
AN 93079833 MEDLINE
DN 93079833
TI Flow cytometric analysis of feline reticulocytes.
AU Reagan W J; Vap L M; Weiser M G
CS Department of Pathobiology, Purdue University, West Lafayette, IN..
SO VETERINARY PATHOLOGY, (1992 Nov) 29 (6) 503-8. Journal code: XBQ. ISSN: 0300-9858.
AB Hemolytic anemia was induced in five Domestic Shorthair cats (four adult males and one spayed female obtained from a breeding colony at Colorado State University, CO), and blood samples were analyzed from five other cats (two castrated male Domestic Shorthairs, one castrated male Domestic Longhair, one castrated male Persian, and one spayed female Siamese presented to the Veterinary Teaching Hospital at Colorado State University for miscellaneous problems). Blood samples taken from these cats had percentages of aggregate reticulocytes that ranged from 0% to 14.5% as determined by manual counting and were used to identify the best technique for staining cat reticulocytes for flow cytometric analysis. The best technique was mixing a blood sample (1/2,000 dilution) with 0.2 micrograms thiazole orange in 1 ml of diluent and incubating the mixture in the dark at room temperature for 30 to 60 minutes. The percentage of reticulocytes determined by flow cytometry correlated well (r = 0.88) with manually determined aggregate reticulocyte percentages; no significant differences

were observed between the two techniques (P > 0.05). For the conditions used, punctate reticulocytes were not detected by flow cytometry. Samples with very high platelet numbers and very low packed cell volumes may show falsely elevated percentages of reticulocytes as determined by flow cytometry. The reproducibility of the flow cytometric technique was good; the coefficient of variation ranged from 4.8% to 17.9% in two samples with two different times of incubation. Staining of cat aggregate reticulocytes with thiazole orange and use of flow cytometric quantification is a reproducible technique that has a good correlation with the manual reticulocyte counting method.

ΩL41 ANSWER 46 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1993:47713 BIOSIS
TI Evaluation of a new haematology analyser for whole blood count and full differential (NE-8000.
AU Laharrague, P. F. (1); Fillola, G.; Corberand, J. X.
CS (1) Lab. Hematologie, CHU Rangueil, F-31054 Toulouse Cedex France
SO Nouvelle Revue Francaise d'Hematologie, (1992) Vol. 34, No. 4, pp. 303-307. ISSN: 0029-4810.
AB We evaluated the fully automated haematology analyser TOA Sysmex NE-8000 over a three-month period according to the ICSH protocol using as reference techniques a Coulter STKR counter and microscope examination for WBC differential and cell morphology. The NE-8000 employs aperture impedance to perform cell counts, with a sheath fluid to focus cells hydrodynamically prior to counting and sizing. WBC are differentiated into five populations. A combination of aperture impedance, ratio frequency measurement and differential cell shrinkage is used, eosinophil and basophil percentages being established in two separate channels and substrated from the total granulocyte count in order to give the value for neutrophils. Analysis of 1060 samples processed by the closed sampling automode demonstrated satisfactory counting performance. Among the WBC differentials obtained from 100 samples, neutrophil, eosinophil and lymphocyte results correlated well with those from microscopic examination of blood smears performed according to the NCCLS stndard H20 T protocol. Differences observed in the percentages of basophils were of no biomedical significance. A comparative study for monocytes showed poor correlation for values below 5% and above 10%, best results being obtained in the intermediate range 5-10%. The NE-8000 also demonstrated good realiability for detection of abnormal cells.

L41 ANSWER 80 OF 430 CA COPYRIGHT 2001 ACS
AN 114:243908 CA
TI Lytic agents and uses in leukocyte subpopulation determination by flow cytometry
IN Marshall, Paul N.
PA Unilever PLC, UK; Unilever N. V.
SO Eur. Pat. Appl., 19 pp. CODEN: EPXXDW
PI EP 398652 A1 19901122 EP 1990-305229 19900515
US 5510267 A 19960423 US 1992-934282 19920824
PRAI US 1989-352106 19890515
AB A lytic agent and a method of performing a differential cell subpopulation count, of use in e.g. flow cytometry, are provided. The lytic agent comprises an arom. oxyethanol (preferably 2-phenoxyethanol), an org. buffer of pK ~8.5, and a nonionic detergent. The lytic agent and method allow the 5-part differential detn. of leukocyte cell subpopulations from a whole blood sample using flow cytometry methods. Scattergrams are included. Subpopulations include lymphocytes, neutrophils, monocytes, eosinophils, and basophils.

ΔL41 ANSWER 83 OF 430 MEDLINE
AN 91266044 MEDLINE
TI Modified staining techniques for avian blood cells.
AU Robertson G W; Maxwell M H
CS Agricultural and Food Research Council Institute of Animal Physiology and Genetics Research, Roslin, Midlothian, Scotland..
SO BRITISH POULTRY SCIENCE, (1990 Dec) 31 (4) 881-6. Journal code: B55. ISSN: 0007-1668.
AB 1. Two routine staining methods for domestic fowl blood cells have been modified with superior results. 2. Type of anticoagulant had a major effect on staining quality: EDTA gave excellent results whereas lithium heparin was unsatisfactory. 3. Unfixed blood smears were preferred to smears fixed in methanol before staining with May Grunwald and Giemsa's stain. Intact heterophil and basophil granules were clearly demonstrated. 4. Staining for 60 min in Natt and Herrick's haemocytometer diluent improved the differentiation between small lymphocytes and thrombocytes.

L41 ANSWER 86 OF 430 CA COPYRIGHT 2001 ACS
AN 114:74864 CA
TI Immune activation is associated with phenylhydrazine-induced anemia in the rat
AU Naughton, Brian A.; Dornfest, Burton S.; Bush, Maurice E.; Carlson, Catherine A.; Lapin, David M.
CS Med. Lab. Sci. Dep., Hunter Coll. Sch. Health Sci., New York, NY, 10010, USA
SO J. Lab. Clin. Med. (1990), 116(4), 498-507 CODEN: JLCMAK; ISSN: 0022-2143
LA English RB1.J6 biomic
AB Long-term phenylhydrazine (PHZ) treatment caused pronounced anemia and a concomitant increase in the nos. of circulating leukocytes in Long-Evans rats. The leukocytosis was caused mainly by an elevation in mononuclear cells, most notably in the lymphocyte population. PHZ has been reported to cause the direct lysis of erythrocytes by nonimmune mechanisms. However, recent reports indicate that PHZ can cross-link red cell band 3 protein (senescent antigen), resulting in the binding of autologous IgG (IgG). Recognition of this complex by macrophage Fc receptor mechanisms triggers rapid erythrophagocytosis in the spleen and possibly the liver as well. In this study, anal. of the blood, bone marrow, and spleen cells of long-term (1 to 6 wk) PHZ-treated rats was performed by using flow cytometry. Total serum IgG levels were detd. by radial immunodiffusion, and antibodies reactive with red cells that were sensitized to PHZ either in vivo or in vitro were titered by using the indirect Coombs' method. Serum prostaglandin E2 titers also were detd. at different time intervals after PHZ administration. The results indicate that PHZ induces an increase in circulating antibody and prostaglandin E2 titers that correlates with the onset of anemia and that the serum of PHZ-treated rats can induce anemia in normal recipients after passive transfer. Cytofluorog. studies revealed a marked increase in the B-cell population of the peripheral blood and spleen and an altered ratio of T-helper to T-suppressor cells at certain time intervals after PHZ injection. The results indicate that in addn. to inducing senescence-like alterations in erythrocyte membrane proteins, PHZ stimulates the prodn. of the autologous IgG that recognizes these sites and promotes lymphoid blastogenesis, most notably in the B-cell lineage.

L41 ANSWER 104 OF 430 MEDLINE
AN 89288017 MEDLINE
TI Estimation of cell survival by flow cytometric quantification of fluorescein diacetate/propidium iodide viable cell number.

AU Ross D D; Joneckis C C; Ordonez J V; Sisk A M; Wu R K; Hamburger AW Nora R E; Nora R E

CS Program of Oncology, University of Maryland Cancer Center, Baltimore 21201.

SO CANCER RESEARCH, (1989 Jul 15) 49 (14) 3776-82. Journal code: CNF. ISSN: 0008-5472.

LA English RC261.A1 C2 biomic

AB We report a flow cytometric method to quantify the number of viable cells remaining in suspension culture following exposure to cytotoxic drugs. Cell viability is assessed by flow cytometric measurement of cellular fluorescence after staining with fluorescein diacetate and propidium iodide in isotonic solution. The number of viable cells per ml of culture is determined by a timed count of viable cells and from knowledge of the flow cytometer sample flow rate. P388 murine or HL-60 human leukemia cells in culture were used as model systems. This method can quantify accurately viable cell concentrations in suspension culture from 100 cells/ml to 1 million cells/ml. The sensitivity of the method as a cytotoxicity assay increases if, following brief (1-4-h) exposure to drug, greater time is allowed for cell death and lysis to occur prior to flow cytometric counting of viable cells. If the viability assessment is deferred for at least 72 h following drug (daunorubicin, actinomycin D, vincristine) exposure, results were obtained approximating those obtained from the soft agar clonogenic assay or the colorimetric 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay. In studying the cytotoxic effects of vincristine, actinomycin D, 1-beta-D-arabinofuranosylcytosine, and daunorubicin on P388 or HL-60 cells sensitive and resistant to these agents, reasonable results were obtained by flow cytometric counting of viable cell number. We have been able to perform this flow cytometric viability assay with ease using bone marrow blast cells obtained from patients with acute myelogenous leukemia. The method is facile, relatively rapid, and since it is ideal for studying cells in suspension culture, its potential as a predictor of chemotherapeutic response in leukemia warrants further evaluation.

L41 ANSWER 110 OF 430 MEDLINE

AN 90149176 MEDLINE

TI Utilization of a new index to distinguish heterozygous thalassemic syndromes: comparison of its specificity to five other discriminants.

AU Makris P E

CS 1st Medical Propedeutic Clinic, AHEPA University Hospital, Thessaloniki, Greece..

SO BLOOD CELLS, (1989) 15 (3) 497-506; discussion 507. Journal code: A8H. ISSN: 0340-4684.

LA English QP94.B5 biomic

AB In 1984, a new index (the Makris index) combining erythrocytic and platelet parameters was described for the discrimination of the heterozygous thalassemic syndromes (beta and alpha). The algorithm is [(MCV/RDW)/(MPV/PDW)] divided by the RBC count in millions and requires for input the MCV, RDW, MPV, PDW, and RBC. The critical value used for separating the heterozygous thalassemic subjects is 1.84, which is the mean value plus 2 SD of our heterozygous subjects (confidence limit 95%). Because this index utilizes a confidence limit that includes 95% of affected persons, all individuals with values smaller than this need further investigation. It should be noted that the specificity of the index can be increased using the mean value of our heterozygous group plus 3 SD (X + 3 SD = 1.30 + 3*0.27 = 2.11, confidence limit 99%). In a series of 1510 "normal" subjects examined, 154 were designated as abnormals. None of the rest had abnormalities of cellular morphology or red cells osmotic resistance. The algorithm is readily incorporated into the software of an

automated, whole blood analyzer. Using an expert system, we compared the sensitivity and specificity of the Makris index to five other discriminants (Mentzer, Shine et al., England et al., Green, and Bessman et al.). The Makris index distinguished between heterozygotes and normals without misdiagnosis.

L41 ANSWER 113 OF 430 MEDLINE
AN 89328342 MEDLINE
TI Automated blood count analysis by trimodal size distribution of leukocytes with the SYSMEX E-5000.
AU Burgi W; Marti H R
CS Zentrallaboratorium, Kantonsspital, Aarau, Schweiz..
SO JOURNAL OF CLINICAL CHEMISTRY AND CLINICAL BIOCHEMISTRY, (1989 Jun) 27 (6) 365-8. Journal code: I3U. ISSN: 0340-076X.
LA English RB40.A1 Z4
AB The automated haematology analyser, SYSMEX E-5000, measures and computes quantitative haematological parameters, and determines the size distribution of blood cells and platelets. After partial lysis, the analyser classifies the leukocytes into 3 populations: small cells (lymphocytes), intermediate sized cells (basophils, eosinophils, monocytes) and large cells (neutrophils, including band cells). One thousand blood samples from inpatients and outpatients were analysed automatically in the SYSMEX as well as being submitted to microscopic blood smear differentiation, and the results were compared. The trimodal size distribution of the automated analysis revealed 1.8% false normal results. Ten cases of eosinophilia of between 6.6 and 12.5% remained undetected by the automated method, which also failed to detect 7 cases of left shift with normal leukocyte count, as well as a single sample containing 2% of myelocytes. Both diagnostic sensitivity and diagnostic specificity were high, i.e. 97.1% and 81.8%, respectively. The predictive values were also high for both pathological and normal results. Since certain changes in blood cell morphology are not detected by the SYSMEX, certain clinical indications still call for a microscopic blood smear examination. With due regard to these limitations, the apparatus yields reliable results and economizes considerably the routine laboratory work load. In the present study, 31% of the microscopic blood cell differential counts were saved by using the SYSMEX E-5000.

L41 ANSWER 133 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1988:478911 BIOSIS
DN BA86:110221
TI AN EVALUATION OF THE TECHNICON H-1 AUTOMATED HEMATOLOGY ANALYZER IN DETECTING PERIPHERAL BLOOD CHANGES IN ACUTE INFLAMMATION.
AU BANEZ E I; BACALING J H D
CS DEP. PATHOL., ONE BAYLOR PLAZA, HOUSTON, TEX. 77030.
SO ARCH PATHOL LAB MED, (1988) 112 (9), 885-888. CODEN: APLMAS. ISSN: 0003-9985.
LA English biomic
AB The Technicon H-1 (H-1) is an automated hematology analyzer that provides a complete blood cell count, a six-part differential with absolute counts, and morphologic values with a left-shift flag (LS). To determine the sensitivity of the H-1 in detecting peripheral blood changes in acute inflammation, we first correlated the H-1 LS with band counts on the Hematrak 590 (H590), an automated digital image processor differential system. The H-1 sensitivity to H590 band counts above 11% was 76%, specificity was 82%, and efficiency was 80%. Each semiquantitative LS (1+, 2+, 3+), as well as a new factor, lobularity index, was correlated with the actual H590 band count. There was a definite direct proportional

relationship between each semiquantitative LS and the mean band count. However, the wide overlaps of band count ranges corresponding to each semiquantitative flag rendered semiquantitation of limited value. Forty cases with the clinical diagnosis of acute appendicitis were similarly studied preoperatively. Thirty-three cases histologically showed acute inflammation. On the H-1, 79% (sensitivity) had LS flags, 88% had absolute neutrophilia (>8 x 109/L), 82% had relative neutrophila (>75%), and 91% had leukocytosis (>10.5 x 109/L). In comparison, sensitivities on the H590 were 70% for band counts above 11%, 82% for relative neutrophila, and 85% for absolute neutrophilia. This study shows that the H-1 is at least as sensitive as the H590 to peripheral blood changes that indicate acute inflammation.

L41 ANSWER 134 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1989:131693 BIOSIS
DN BA87:66346
TI LEUKOCYTE CHARGES ASSOCIATED WITH ACUTE INFLAMMATION IN CHICKENS.
AU LATIMER K S; TANG K-N; GOODWIN M A; STEFFENS W L; BROWN J
CS DEP. VET. PATHOLOGY, COLL. VET. MED., UNIV. GEORGIA, ATHENS, GEORGIA 30602.
SO AVIAN DIS, (1988) 32 (4), 760-772. CODEN: AVDIAI. ISSN: 0005-2086.
LA English biomic
AB Leukocyte changes in chickens with turpentine-induced inflammation were investigated sequentially at 0, 6, 12, and 24 hours and at 2, 3, 4, 7, and 14 days. During acute inflammation, significant leukocytosis and heterophilia developed by 6 hours and persisted through 7 days. The peak mean heterophil and leukocyte counts occurred at 12 hours and 3 days, respectively. Left shifts were present at 12 and 24 hours as detected by 100-cell leukocyte differential counts. Heterophil mean nuclear scores documented nuclear hyposegmentation (left shift) during early inflammation and nuclear hypersegmentation (right shift) during convalescence. Mean monocyte and lymphocyte counts peaked at 2 and 3 days, respectively. Basophil and eosinophil counts were erratic. Toxic changes of heterophils were most apparent during intense left shifts and consisted of cell swelling, degranulation, cytoplasmic vacuolation, and cytoplasmic basophilia. Cytoplasmic basophilia was the last aspect of toxic change to resolve. Ultrastructurally, toxic heterophils had intracellular edema, dissolution of granules, retention of ribosomes, nuclear membrane blebs, and decreased heterochromatin density. All inflammation-associated alterations in cell counts and morphology returned to baseline values and appearance by 14 days after turpentine administration.

ΩL41 ANSWER 137 OF 430 MEDLINE
AN 89340045 MEDLINE
DN 89340045
TI Labeled polymorphonuclear leukocytes: a comparison of methodology.
AU Chowdhury S; Brown M L; Dewanjee M K; Forstrom L A; Katzmann J A
CS Mayo Clinic and Foundation, Rochester, MN 55905.
SO INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART B, NUCLEAR MEDICINE AND BIOLOGY, (1988) 15 (5) 511-5. Journal code: G3J. ISSN: 0883-2897.
AB Polymorphonuclear neutrophilic granulocytes were separated from anti-coagulated whole blood using three techniques. The methods employed included volex sedimentation (VS), volex sedimentation with hypotonic lysis (VSHL), and Ficoll-Hypaque gradient separation (FH). The cells were labeled with 111In-oxine and 111In-tropolone. Studies were done with both blood from normal human volunteers and with canine blood. From the cell counts and differential, the harvested granulocytes, platelets, and red blood cells per milliliter of whole blood were calculated. Using the granulocyte

chemotactic response to E. coli in agarose plates, the ratio of chemotactic migration to random migration (c.m./r.m.) was determined. Survival time for 111In labeled granulocytes were also determined in a canine model. The studies demonstrated that all procedures yielded 100% viability by the Trypan blue exclusion test. Chemotactic migration and leukocyte survival times were similar amongst all techniques. With the VSHL technique, there were significantly fewer red blood cells and platelets in the final preparation approaching the results of FH separation. The results suggest that for a relatively pure granulocyte preparation VSHL is an acceptable alternative to FH.

L41 ANSWER 157 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1987:112261 BIOSIS
TI FLOW CYTOMETRY LYSING REAGENT WITH LEUKOPROTECTIVE AGENT FOR PRODUCING A 3-PART WBC COUNT.
AU BROWN M C; KIRCHANSKI S J
CS WAYLAND, MASS., USA. ASSIGNEE: ORTHO DIAGNOSTIC SYSTEMS, INC
PI US 4637986 20 Jan 1987
SO Off. Gaz. U. S. Pat. Trademark Off., Pat., (1987) 1074 (3), 1606. CODEN: OGUPE7. ISSN: 0098-1133.

ΩL41 ANSWER 162 OF 430 MEDLINE
AN 88322738 MEDLINE
TI Size referenced electronic leukocyte counting threshold and lysed leukocyte size distribution of common domestic animal species.
AU Weiser M G
CS Department of Pathology, Colorado State University, Fort Collins..
SO VETERINARY PATHOLOGY, (1987 Nov) 24 (6) 560-3. Journal code: XBQ. ISSN: 0300-9858.
AB Using a single channel electronic cell counter and attached particle size analyzer, leukocyte size distribution histograms were determined on canine, feline, bovine, and equine blood diluted with chloride-based diluent and treated with a conventional stromatolysin. Histograms were usually unimodal, but a few were bimodal. Mean values for mean lysed leukocyte particle volume were 49.2, 51.1, 55.4, and 65.0 fl for canine, feline, equine, and bovine blood, respectively. From inspection of histograms, a lower threshold of 30 fl referenced to latex spheres was interpreted to be appropriate for counting leukocytes of these four species simultaneously. Debris below the threshold was seen in many samples and was usually separated from the leukocyte population by a valley touching the histogram baseline at the threshold channel. Debris resulted in a visually detectable threshold failure by extending considerably into the leukocyte size range in 9% of feline, 9% of canine, and 7% of bovine samples. It is recommended that careful establishment of the lower counting threshold will minimize frequency and severity of leukocyte count error associated with failure to exclude debris.

ΩL41 ANSWER 170 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1988:24601 BIOSIS
DN BA85:12326
TI HEMATOLOGY OF THE AUSTRALIAN EASTERN QUOLL DASYURUS-VIVERRINUS.
AU MELROSE W D; PEARSE A M; JUPE D M D; BAIKIE M J; TWIN J E; BRYANT S L
CS DEP. HAEMATOL., ROYAL HOBART HOSP., TASMANIA, AUSTRALIA.
SO COMP BIOCHEM PHYSIOL A COMP PHYSIOL, (1987) 88 (2), 239-242. CODEN: CBPAB5. ISSN: 0300-9629.
AB 1. A variety of haematological parameters were determined in adult Dosvurus viverrinus. 2. Haemoglobin and red cell counts were high with a very low mean cell volume. 3. Basophils are absent but the eosinophils contain small

numbers of basophilic granules which may indicate a dual role for this cell. 4. "Ring from" leucocytes are present. 5. Three types of red cell picture could be identified, some animals showing large numbers of spherocytes, spicule cells, and inclusion bodies. 6. These cells resemble those found in some inherited human haemolytic anaemias but there was no evidence of haemolysis in the animals. 7. An alkali resistant haemoglobin component is present.

ΩL41 ANSWER 176 OF 430 MEDLINE
AN 87216946 MEDLINE
TI A microcomputer network for the differential leucocyte count and the registration of red blood cell morphology.
AU Ketelaar R; Elion-Gerritzen W E
SO CLINICAL AND LABORATORY HAEMATOLOGY, (1987) 9 (1) 67-71. Journal code: DKF. ISSN: 0141-9854.
AB A microcomputer network is described for the scoring of the differential leucocyte count and the registration of white and red cell characteristics. On each terminal keyboard, keys are assigned to white cell fractions (10), erythroblasts (1), red (13) and white (3) cell morphology and for graduations 1+ to 4+. Duplicate counts on different microscopes are collected by the master, averaged and forwarded to a printer. In the future we hope to transmit results directly to the laboratory computer. The use of the system is not restricted to the differential leucocyte count. An intelligent scoring board can help to alleviate the time-consuming task of entering qualitative and descriptive results into a laboratory computer.

L41 ANSWER 196 OF 430 MEDLINE
AN 87077010 MEDLINE
TI Variability of erythrocyte size and hemoglobin content observed in man and four selected mammals.
AU Groner W; Boyett J; Johnson A; Scantlebury M
SO BLOOD CELLS, (1986) 12 (1) 65-80. Journal code: A8H. ISSN: 0340-4684.
LA English QP94.B5 biomic
AB A new measurement technique employing light scattering at different angles has been developed for analysis of blood cells. This method which is part of the Technicon H*1 system, a hematology analyzer designed for routine processing of human blood samples, allows the independent measurement of cell volume and hemoglobin content of isovolumetrically sphered red blood cells. Analysis with this instrument of the blood of humans, dogs, rabbits, rats and mice demonstrates that in addition to the expected differences in hematologic parameters, the intrasample distribution of cell hemoglobin is species dependent. In general, cell hemoglobin content is more tightly controlled for the other mammals when compared to humans. In particular, the dogs tested showed the least variability in cell hemoglobin content both within species and within sample.

L41 ANSWER 200 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1986:217259 BIOSIS
TI AMPLIFIER DESIGN CONSIDERATIONS FOR BLOOD CELL COUNTER SAMPLING PROBES.
AU FERRIS C D; VEAL B L
CS UNIV. OF WYOMING.
SO ISA (INSTRUM SOC AM) TRANS, (1986) 25 (1), 1-4. CODEN: ISATAZ. ISSN: 0019-0578.
LA English TA165.I25 main
AB lood cell counters that operate on the Coulter principle of an electrical resistance change when a cell passes through a small sampling orifice are especially sensitive to electrical noise. The sampling probe is immersed in an electrolyte (isotonic diluent for blood cells), which in itself presents

an electrochemically noisy environment. The probe, owing to its large size, acts as an antenna for environmental electrical noise up to 60 Hz. Additionally, the basic Coulter method for cell counting requires a dc potential across the sampling orifice electrodes contained within the probe. This potential produces electrolysis of the diluent and generation of gas bubbles at the electrode surfaces. Sampling (counting) time must be short (less than 30 seconds) to avoid sample heating and an intolerably high noise level as a consequence of ionic motion and gas bubble generation. The resistance change that takes place when a cell passes through the sampling orifice is only a small fraction of a percent, thus noise is a serious problem. Electrical noise produces false counts and general degradation of counting function. This paper presents a discussion of a currently used method for signal acquisition and some of the problems encountered in the clinical laboratory. A novel alternative design has been implemented using integrated circuit components, which eliminates many of the problems associated with the use of small bench-type counters. Design philosophy is discussed in detail including presentation of the final circuitry developed. Performance characteristics of the signal acquisition circuitry are presented. The system developed requires about one-half of the dc probe voltage required by the commercial counters evaluated during this project, hence, much of the front-end noise is reduced.

L41 ANSWER 204 OF 430 MEDLINE
AN 86033166 MEDLINE
TI Fluorescent probes for cellular hypoxia: lack of transfer of fluorescence between cells in vitro.
AU Olive P L
NC CA-37879 (NCI)
SO INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY, BIOLOGY, PHYSICS, (1985 Nov) 11 (11) 1947-54. Journal code: G97. ISSN: 0360-3016.
LA English biomic
AB Fluorescent nitroheterocycles may be useful as probes for cellular hypoxia. Reductive metabolism of AF-2 (cis 2-(2-furyl)-3-(5-nitro-2-furyl)acryl-amide) and NFVO (trans-5-amino-3((5-nitro-2-furyl)vinyl)1,2,4-oxadiazole) results in intracellular accumulation of fluorescent molecules; the mean cellular fluorescence has previously been shown to be related to the cellular oxygen content during incubation in vitro. However, factors in addition to oxygen and nitroreductive activity may also affect cellular accumulation of these drugs. The stability of cellular fluorescence and possible diffusion of metabolites were examined by flow cytometric analysis of mouse and hamster fibroblasts exposed to NFVO and AF-2. Incubation of cells with 14C-AF-2 allowed calibration of the flow cytometer for AF-2 fluorescence; 5 X 10(8) molecules/cell resulted in double the spontaneous cellular fluorescence. Cellular fluorescence was stable for days after exposure to AF-2, and no evidence of transfer between exposed and unexposed cells was observed. For concentrations resulting in less than 5 X 10(9) AF-2 adducts/cell, all of the metabolites could be accounted for intracellularly. Therefore, it is unlikely that transfer of reduced nitroheterocycles occurs between cells.

ΩL41 ANSWER 215 OF 430 CA COPYRIGHT 2001 ACS
AN 102:144249 CA
TI Macrophage oxidative burst (OB) and related cytotoxicity - II. Differential sensitivity of erythrocytes from various animals to OB dependent lysis
AU Keisari, Yona; Geva, Ita
CS Sackler Fac. Med., Tel-Aviv Univ., Tel Aviv-Jaffa, 69978, Israel
SO Comp. Biochem. Physiol. A (1985), 80A(2), 163-6 CODEN: CBPAB5; ISSN: 0300-9629

AB Red blood cells (RBCs) from various animals, when exposed to OB-stimulated mouse macrophages, showed differences in sensitivity to OB-dependent lysis. The increasing order of sensitivity was: mouse, hamster, rabbit, guinea pig, sheep, and human RBCs. The degree of OB-dependent hemolysis did not correlate with either the capacity of the various cells to degrade H2O2 or their osmotic fragility. The relative sensitivity of the various RBCs to OB products generated by macrophages concurred with their sensitivity to H2O2 generated by an enzymic system. The differential sensitivity may be correlated with the sphingomyelin content of the cells.

L41 ANSWER 249 OF 430 MEDLINE
AN 83239069 MEDLINE
TI Resistance to lysis of erythrocytes containing haemoglobin C--detected in a differential white cell counting system.
AU Booth F; Mead S V
SO JOURNAL OF CLINICAL PATHOLOGY, (1983 Jul) 36 (7) 816-8. Journal code: HT3. ISSN: 0021-9746.
LA English RB1.J55 biomic
AB Erythrocytes containing haemoglobin C do not lyse normally in the peroxidase channel of the Technicon H6000 automated cell counter. This interferes with the normal function of the channel and results in a characteristic abnormal pattern. This correlates with a reduced osmotic fragility of the red cells.

ΩL41 ANSWER 297 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1982:155238 BIOSIS
TI AUTOMATED DIFFERENTIAL LEUKOCYTE COUNTING PRESENT STATUS AND FUTURE TRENDS.

AU LEWIS S M
CS R. POSTGRAD. MED. SCH., LONDON W12 OHS, ENGL., UK.
SO BLUT, (1981) 43 (1), 1-6. CODEN: BLUTA9. ISSN: 0006-5242.
AB Hematology suffers from problems associated with rapidly accelerating demand for tests. In most laboratories the output is doubled every 4 yr and only with the help of automation can the workload be handled. The speed and ease with which a blood count can now be done on an electronic counter has had a major effect on the pattern of clinical laboratory services and the organization of routine hematology in the district general hospital. The differential leukocyte count (DLC) is perhaps the most frequently requested cytological investigation, and it is usually considered an essential part of hematological screening of patients. When an entire blood count can now be carried out by an automated system in 30-60 s, supervised by a single technician, the limiting factor is the need to make, stain and examine a blood film. Automation of the DLC has become a major effort in the biomedical industry. There are 2 principles being used: measurement of certain parameters of cells as they flow continuously past a sensing device, and identification of cell morphology on a slide under a microscope by computerized image processing. Each method has advantages and disadvantages which require further consideration. The parameters which are measured in the continuous flow process are based on 1 of 3 procedures: microfluorometry, cytochemistry and leukocyte volume analysis.

L41 ANSWER 304 OF 430 MEDLINE
AN 80172525 MEDLINE
TI An evaluation of a whole-blood platelet counter.
AU Day H J; Young E; Helfrich M
SO AMERICAN JOURNAL OF CLINICAL PATHOLOGY, (1980 Apr) 73 (4) 588-93. Journal code: 3FK. ISSN: 0002-9173.
LA English biomic

AB The performance of the platelet count in the hematology laboratory remains a laborious, time-consuming technic requiring separation of platelet-rich plasma, correction for leukocyte counts, lysis of erythrocytes, etc. The availability of an instrument that would count platelets in whole blood would appear to be a distinct advantage. One such instrument has been recently evaluated. The Ultra-Flo 100 Whole Blood Platelet Counter was found to be a reliable instrument for performing platelet counts on microspecimens of untreated whole blood. Counts were both accurate and precise, with no carry-over from specimen to specimen. The major advantage of the system is the speed with which platelet counts may be performed (25 sec) and results produced, a distinct advantage in those laboratories serving large outpatient hematology/oncology clinics. Six months of day-to-day experience in the laboratory has shown a favorable frequency-of-repair record, with little downtime.

ΩL41 ANSWER 327 OF 430 MEDLINE
AN 80173586 MEDLINE
TI Sample preparation variation and its effects on automated blood cell differential analysis.
AU Green J E; Weintraub H A; Donnelly B S; Mordecai B G
SO ANALYTICAL AND QUANTITATIVE CYTOLOGY, (1979 Nov-Dec) 1 (3) 187-201. Journal code: 495. ISSN: 0190-0471.
AB Uniform and reproducible sample preparation is an indispensable ingredient in automated instruments for cell analysis. Differences in measured cell morphology resulting from nonuniform sample preparation are indistinguishable to the instrument from differences reflecting different cell types or functions. As a result, as sample preparation becomes more variable, subtle cell distinctions are first confused and then completely obscured. As part of the development of the Abbott ADC-500 differential analysis system, automatic blood film spinner and stainer modules were developed to provide uniform sample preparation. These modules were tested to quantitate the effects of variations in the spinning and staining conditions on the measured ADC-500 parameters and observed cell morphology. The previously reported increase in spin time with increasing hematocrits was confirmed for the ADC-500 spinner. Moderate variations in spin speed, acceleration, deceleration and spin chamber configuration were found to have little or not effect. Postspinning air flow over the slide had a dramatic effect on morphology distortion. Variations of the staining temperature, staining time or rinse volume were found to have very little effect on measured leukocyte parameters although staining temperature had a dramatic effect on observed erythrocyte morphology and staining. Stain:buffer ratio variations were found to alter measured leukocyte parameters, with the measured density increasing as the fraction of stain increased up to a 1:2 stain:buffer ratio. Because the operational limits for the spinning and staining parameters are much tighter than the range of variables investigated, it was concluded that the ADC-500 sample preparation modules do not introduce variations in the analyzer results.

ΩL41 ANSWER 336 OF 430 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1978:250261 BIOSIS
TI SEPARATION OF RABBIT MARROW PRECURSOR CELLS BY COMBINED ISOPYCNIC SEDIMENTATION AND ELECTRONIC CELL SORTING.
AU SCOTT R B; GROGAN W M; COLLINS J M
CS DEP. MED., MED. COLL. VA., RICHMOND, VA. 23298, USA.
SO BLOOD, (1978) 51 (6), 1137-1148. CODEN: BLOOAW. ISSN: 0006-4971.
AB Separation of developing cells into fractions of differing stages of maturity is critical to effective biochemical study of the process of cellular differentiation. Density gradient techniques utilizing rate-zonal

or isopycnic separations have permitted partial separations based on cell mass or cell density. The separation of various rabbit marrow cells was improved by high-speed flow analysis and sorting in a Coulter Two-Parameter Cell Sorter. After preliminary isopycnic separation of marrow cells in Ficoll-Hypaque, cells were sorted into lymphoid and myeloid elements, utilizing light-scatter (LS) profiles to determine sorting. Characteristic LS patterns were present for erythrocytes, lymphocytes, devitalized cells and granulocytes. When erythrocytes and their precursors were removed by hypotonic lysis, the remaining granulocytes could be sorted to give samples with much greater purity (with respect to developmental stage) than was possible with density gradients alone. The combination of techniques represents a significant improvement in the ability to study the mechanisms of normal or altered cellular maturation.

L41 ANSWER 354 OF 430 CA COPYRIGHT 2001 ACS
AN 87:180305 CA
TI Apparatus and method of fluid sample analysis
IN Burns, Donald A.; Brand, Michael J.; Saunders, Alexander M.
PA Technicon Instruments Corp., USA
SO U.S., 4 pp. CODEN: USXXAM
PI US 4049381 A 19770920 US 1976-669785 19760323
PRAI US 1976-669785 19760323
AB An app. and method are described for dilg. a liq. in liq. sample anal., for example, reagent and (or) diluent in a blood cell counter. A concn. gradient is obtained in a liq. sample analyzer by flowing a 1st liq. in a stream to fill a conduit. The concn. of the 1st liq. can be changed by removing from the stream a predetd. varying vol. of the 1st liq. and adding to the stream a predetd. proportional varying vol. of a 2nd liq. A method of serial diln. of a liq. stream in a conduit by removal of a portion of the stream prior to each diluent addn. for the purpose of conserving diluents which may be reagents also in described. An angularly movable tray arranged for sequential removal of liq. samples, peristaltic pumps, and a timing programmer are included.

ΩL41 ANSWER 387 OF 430 MEDLINE
AN 76059735 MEDLINE
TI The counting and sizing of spermatozoa from ten animal species using a Coulter counter.
AU Brotherton J
SO ANDROLOGIA, (1975) 7 (3) 169-85. Journal code: 4QP.
AB Accurately calibrated Coulter Counters, Models ZB Industrial and F, were used to count and size spermatozoa before and after Zaponin treatment which lyses accompanying debris, droplets and peripheral sperm cytoplasm. Sperm specimens from the cauda epididymis of the rabbit, Guinea pig, hamster, rat and mouse were without accompanying particles and could be sized without Zaponin treatment. The large acrosome cap of the guinea pig swelled rapidly when the spermatozoa were released into an isotonic solution and measurement was only possible after equilibrium had been reached. Zaponin treatment completely dissolved rat and hamster spermatozoa within a few seconds and about 50% of the mouse spermatozoa. Spermatozoa form the cauda epididymis of the bull were accompanied by some unspecific debris which made size determination without Zaponin treatment difficult. A separate population of cytoplasmic droplets was not present and the amount of accompanying cytoplasm, as shown by its removal with Zaponin, was the least for the species examined. The size of spermatozoa in ejaculated specimens from the dog varied considerably according to whether the cytoplasmis droplet was still present, but after Zaponin treatment all specimens were about the same size. Ejaculated specimens from the European wild boar

contained a separate population of small droplets which were sufficiently different in size from the spermatozoa to allow separate counting and sizing without Zaponin treatment. Ejaculated specimens from the Rhesus monkey required incubation to release the spermatozoa from the clot before they could be counted and sized. Their size tended to vary slightly according to the length of incubation. Ejaculated specimens from the rabbit and from man were so heavily contaminated with debris that counting and sizing was not possible without Zaponin treatment. The relationship between the amount of debris and the numbers of spermatozoa was extremely variable. The debris in human specimens was separated from the spermatozoa by downward fractionation of the motile spermatozoa into increasing concentrations of bovine serum albumin, so allowing measurement of untreated spermatozoa for the first time. The sperm size distribution curves for all the ten species examined, both before and after Zaponin treatment, were positively skewed. The peaks were broader and flatter when Zaponin was not used. Sperm sizes, in terms of total volume and of the diameter of a sphere of that volume, are given for all the species at both the mode and the mean of the size distribution curves. After Zaponin treatment the mean size was between a volume of 15 and 50 mum3 or an equivalent spherical diameter of 3-5 mum. Before Zaponin treatment all the sperm types were greater than 20% larger by volume and the mean volume was between 25 and 190 mum3.

ΩL41 ANSWER 392 OF 430 CA COPYRIGHT 2001 ACS
AN 84:86359 CA
TI Automated cell population analysis
AU Thorell, Bo
CS Inst. Pathol., Karolinska Sjukhuset, Stockholm, Swed.
SO Unclassif. Leuk., Proc. Symp. (1975), Meeting Date 1974, 71-7. Editor(s): Bessis, Marcel; Brecher, George. Publisher: Springer, Berlin, Ger. CODEN: 32FYAI
AB Conventional microspectrometric anal. of single bone marrow cells or leukemic cells indicated the possibility of defining populations by objective cytochem. parameters. Wih rapid-flow cytofluorometric instruments it was feasible to analyze 10,000 cells within a few min. Examples are given of specific population patterns from normal bone marrow suspensions, thymocytes, and malignant cell suspensions. On line computerization of flow-cytometric data offers possibilities for diagrammatic and numerical definition of the cell populations and subpopulations. The use of these techniques in classifying morphol. unclassifiable cells was discussed.

ΩL41 ANSWER 425 OF 430 CA COPYRIGHT 2001 ACS
AN 67:8524 CA
TI Semiautomatic dilution system for the hematology laboratory
AU Bull, Brian S.; Schneiderman, Marvin A.; Brecher, George
CS Natl. Inst. of Health, Bethesda, Md., USA
SO Tech. Bull. Regist. Med. Technol. (1967), 37(3), 83-7 CODEN: TBRMAX
AB A semiautomated diln. system which prepares specimens for red blood cell and white blood cell counts and Hb detns. was presented and evaluated. Self-emptying precision microcapillaries for diln. of finger-puncture blood samples and a modified μl. syringe for handling anticoagulated blood were used. A double valve syringe pump dispenser provided the necessary amt. of diluent in both cases. The system is simple, rapid, and more precise than the use of standard Hb pipets and reduces possible errors due to improper use of equipment.

ΩL41 ANSWER 429 OF 430 MEDLINE

AN 65096494 MEDLINE
TI A DILUENT FOR USE IN SIZING DOG ERYTHROCYTES. UR-659.
AU ORTHEY G F; INGRAM M
SO UR REPORTS, (1965 MAR 5) 51 1-9. Journal code: WY6.
LA English

=> d 143 bib,ab 1-68

L43 ANSWER 13 OF 68 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1991:497396 BIOSIS
TI MULTIDIMENSIONAL FLOW CYTOMETRIC BLOOD CELL DIFFERENTIAL WITHOUT ERYTHROCYTE LYSIS.
AU TERSTAPPEN L W M M; JOHNSON D; MICKEALS R A; CHEN J; OLDS G; HAWKINS J T; LOKEN M R; LEVIN J
CS BECTON DICKINSON IMMUNOCYTOMETRY SYSTEMS, 2350 QUME DRIVE, SAN JOSE, CALIF. 95131.
SO BLOOD CELLS (N Y), (1991) 17 (3), 585-602. CODEN: BLCEDD. ISSN: 0340-4684.
LA English QP94.B5 biomic adonis
AB Forward light scattering, orthogonal light scattering, and the fluorescence intensities of unlysed peripheral blood cells, labeled with CD45-phycoerythrin and the nucleic acid dyes LDS-751 and thiazole orange, were measured simultaneously, utilizing a flow cytometer. Erythrocytes, reticulocytes, platelets, neutrophils, eosinophils, basophils, monocytes, lymphocytes, nucleated erythrocytes, and immature nucleated cells occupied unique positions in the five-dimensional space created by the listmode storage of the five independent parameters. A software program was developed which identified and enumerated each of these cell populations. Platelets in this study were identified by LDS-751 staining, in addition to their forward and orthogonal light-scattering characteristics. Validation of this approach was obtained by demonstrating that all CD41- or CD42-expressing platelets also stained with LDS-751. Furthermore, the staining by LDS-751 did not change following platelet activation with ADP. The quantification of erythrocytes, platelets, neutrophils, eosinophils, monocytes, and lymphocytes correlated well with data obtained with a commerical hematology whole blood analyzer (H-1). Reproducibility of the identification of these populations was shown by repeated meaurement of the same sample and by staining and analysis of multiple aliquots of identical blood samples. Stability studies demonstrated that 8 hours after blood collection, the number of damaged cells increased. This could be measured by a greater thiazole orange uptake by the damaged cells. This investigation demonstrates the feasibility of multidimensional flow cytometric blood cell differentiation for an automated whole blood cell analysisi without the necessity of erythrocyte lysis. The ability to simultaneously identify reticulocytes, nucleated erythrocytes, and immature nucleated cells in one measurement is unique and promises to be a powerful tool for the assessment of abnormal blood samples.

L43 ANSWER 21 OF 68 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1990:198236 BIOSIS
TI A RAPID TECHNIQUE FOR LYMPHOCYTE PREPARATION PRIOR TO TWO-COLOR IMMUNOFLUORESCENCE ANALYSIS OF LYMPHOCYTE SUBSETS USING FLOW CYTOMETRY COMPARISON WITH DENSITY GRADIENT SEPARATION.
AU MANSOUR I; BOURIN P; ROUGER P; DOINEL C
CS INST. NATL. TRANSFUSION SANGUINE, LAB. CYTOMETRIE FLUX, 6 ALEXANDRE CABANEL, 75739, PARIS CEDEX 15, FRANCE.
SO J IMMUNOL METHODS, (1990) 127 (1), 61-70. CODEN: JIMMBG. ISSN: 0022-1759.
LA English QR183.J6 biomic
AB A technique is described for lymphocyte preparation which permits analyses

by two-color immunofluorescence and flow cytometry. It consists, briefly, of the lysis of red blood cells and washing of white blood cells prior to labeling. We tested this technique with a large panel of monoclonal antibodies in mono- and dual immunofluorescence. By comparing these results to those obtained after density separation, we found the following statistically significant differences: the count of the phenotype B1+ was higher after whole blood lysis preparation than after density gradient separation; whereas, the corresponding counts of OKT4+ and Leu-4-Leu-7+ phenotypes were lower. No differences was detected with OKT8+, Leu-4+, OKT8+Leu-4+, OKT8+Leu-4-, OKT8-Leu-4+, OKT8+Leu-7+, Leu-4+Leu-7+, Leu-4-Leu-11c+, OKT8+Leu-11c+ and OKT8+Leu-15+ phenotypes. We have studied the reproducibility of both methods and the correlation between them. the disparity of the lymphocyte subset count between these two methods, though statistically significant, was relatively weak and seems to be due to the density gradient separation. Since the preparation of lymphocytes using the density gradient method is time consuming, we propose whole blood lysis as an alternative lymphocyte separation method when assessing immune status in human disease by flow cytometry. It offers the following advantages: (i) it does not require additional steps, (ii) it permits two-color immunofluorescence through the labeling of white blood cells after washing, (iii) it is reliable, (iv) it is reproducible, and (v) it is helpful in studies of lymphopenia since it offers the possibility of lymphocyte enrichment.

L43 ANSWER 25 OF 68 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1989:511152 BIOSIS
TI A RAPID SAMPLE PREPARATION TECHNIQUE FOR FLOW CYTOMETRIC ANALYSIS OF IMMUNOFLUORESCENCE ALLOWING ABSOLUTE ENUMERATION OF CELL SUBPOPULATIONS.
AU TERSTAPPEN L W M M; MEINERS H; LOKEN M R
CS BECTON DICKINSON, MONOCLONAL CENT., 2375 GARCIA AVE., MOUNTAIN VIEW, CALIF. 94039.
SO J IMMUNOL METHODS, (1989) 123 (1), 103-112. CODEN: JIMMBG. ISSN: 0022-1759.
LA English QR183.J6 biomic
AB A simple and rapid method was developed for immunofluorescence measurements of cells by flow cytometry which does not require washing procedures, permitting absolute enumeration of cell subpopulations. Peripheral blood cells were labeled with fluorescein and phycoerythrin conjugated monoclonal antibodies and the nucleic acid stain LDS-751. Distilled water was added following incubation ot induce erythrocyte lysis by hypotonic shock. After lysis for 30 s the tonicity of the sample was increased followed by measurement on the flow cytometer. The leukocyte populations were clearly resolved in the correlation of forward and orthogonal light scattering. The immunofluorescence resolution of the labeled leukocytes was equivalent to NH4Cl and a commercial lysing preparation. Absolute number of leukocytes and percentage of leukocyte subpopulations determined with this procedure correlated well with the results obtained with a clinical hematology analyzer. Cell recovery and preservation of cellular characteristics of three different procedures for lysing the human erythrocytes were compared. The LDS-751 permitted the discrimination of intact cells from residual erythrocyte ghosts, platelets and damaged nucleated cells. A considerable loss of cells was found for both NH4Cl and commercial lysing solution; the samples prepared by NH4Cl lysing had a selective loss of lymphocyte subpopulations as compared with the other two techniques. In contrast ot the two procedures in which multiple washing steps are involved, the no wash, hypotonic lysis procedure provided a means of obtaining absolute numbers of leukocyte subpopulations identified by combining light scattering immunofluorescence characteristics with no centrifugation steps required.

ÛL43 ANSWER 34 OF 68 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1989:47678 BIOSIS
TI FIVE-DIMENSIONAL FLOW CYTOMETRY AS A NEW APPROACH FOR BLOOD AND BONE MARROW DIFFERENTIALS.
AU TERSTAPPEN L W M M; LOKEN M R
CS BECTON DICKINSON MONOCLONAL CENTER INC., 2375 GARCIA AVE., MOUNTAIN VIEW, CALIF. 94043.
SO CYTOMETRY, (1988) 9 (6), 548-556. CODEN: CYTODQ. ISSN: 0196-4763.
AB We have used five independent variables on a flow cytometer to discriminate and to quantify the cellular components within both blood and bone marrow aspirates. The signals were stored in list mode by which a five-dimensional space was created. The cells-differentiated into : 1) erythrocytes, 2) reticulocytes, 3) nucleated erythroid cells, 4) platelets, 5) lymphocytes, 6) monocytes, 7) neutrophils, 8) eosinophils, and 9) immature leukocytes-had to meet unique criteria with regard to their characteristics in the created five-dimensional space in order to be classified in a specific cell category. Forward and orthogonal light-scattering signals were matched with three fluorescence variables to obtain discrimination without necessitating erythrocyte lysis. Thiazole orange (binding predominantly to RNA) and LDS-751 (principally detecting DNA) were used to differentiate erythrocytes,, platelets, reticulocytes, and nucleated cells. A monoclonal antibody, CD45, conjugated with phycoerythrin, was used to aid in discriminating between lineages of nucleated cells.

=> log y
STN INTERNATIONAL LOGOFF AT 10:13:43 ON 30 JAN 2001